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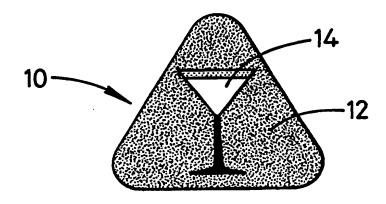
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(54) Title: ACOUSTICALLY ACTIVATED MARKETING DEVICE

(57) Abstract

An acoustically activated marketing for displaying predefined information in response to predefined data being received. The device is obtained from a retailer and worn as a badge while at the cinema or while listening to the radio or TV. When a specific advert is broadcast the badge interprets part of the sound track and activates the display on the badge. The displayed information may be an advertisement or a message. The predefined data may be broadcast by a commercial broadcasting means, such as a television or radio.



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ACOUSTICALLY ACTIVATED MARKETING DEVICE

The present invention relates to an acoustically activated marketing device.

The consumer obtains the device from a retailer. He/she wears the device as a badge while at the cinema or while listening to the radio or TV. When a specific advert is broadcast the badge interprets part of the sound track and activates the display on the badge.

According to the present invention there is provided apparatus for displaying information, said apparatus including display means and activation means, said activation means being coupled to said display means such that upon reception of predefined data said activation means causes said display means to display predefined information.

Said predefined data may be transmitted by an acoustic signal.

Said acoustic signal may be digitally modulated.

According to a further aspect of the present invention said predefined data is broadcast by a commercial broadcasting means. Said commercial broadcasting means may be a television broadcasting means. Alternatively, said commercial broadcasting means may be a radio broadcasting means.

According to yet a further aspect of the present invention, said apparatus further includes programming means for programming said predetermined data and said predefined information.

Said display means may be a liquid crystal display.

Said activation means may be an application specific integrated circuit.

Said apparatus further include a microphone means, an analogue to digital interface means, a programmable digital processor and a battery.

Said battery may be a button cell type battery.

According to an aspect of the present invention, said predefined information may be an advertisement. Alternatively, said predefined information may be a message.

According to a further aspect of the present invention, there is provided a method for displaying information, said method including the steps of: receiving data, comparing said received data with predefined data, and upon said received data matching said predefined data, displaying predefined information.

According to a further aspect of the present invention said data is transmitted by an acoustic signal.

Said acoustic said maybe digitally modulated.

According to yet a further method aspect, said acoustic signal is part of a commercial broadcast. Said commercial broadcast may be a television broadcast. Alternatively, said commercial broadcast may be a radio broadcast.

While the principle advantages and features of the invention have been described above, a greater understanding and appreciation of the invention may be obtained by referring to the drawings and detailed description of the preferred embodiment, presented by way of example only, in which;

Figure 1 shows the display means of an acoustically activated marketing device according to one aspect of the present invention,

Figure 2 shows the electronic layout of an acoustically activated marketing device according to one aspect of the present invention.

In Figure 1 an acoustically activated marketing device (10) is shown comprising a low-cost display (12). The display (12) may be a liquid crystal display. The device (10) operates such that upon reception of predefined data, the display (12) displays predefined information. This

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information may be an advertisement such as a cocktail glass (14) or a message indicating that a prize has been won.

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The device can be configured such that different data triggers different messages. For example, data X may trigger a message that indicates a prize has been won, while data Y may trigger a message that indicates that no prize has been won.

Alternatively, different badges can be configured to respond differently to the same data. For example, upon reception of the same data, one badge may indicate that a prize had been won, while another badge may not.

In Figure 2 the electronics layout (20) of an acoustically activated marketing device (10) is shown. In this aspect of the present invention the electronics layout includes a microphone element (22) connected to an A/D interface (24). The microphone elements operate to detect a predefined acoustic signal. The device (10) further includes a programmable digital processor (26) which allows for a variety of acoustic signals and corresponding display information to be programmed into the device. Thus a single device can be mass-produced and then programmed in the factory to satisfy a variety of different customer's needs.

The device (10) further comprises a battery source (28). In this embodiment of the present invention the battery source is a button type battery.

As will be appreciated, when the predefined information is displayed the consumer may be in an area of high noise, for example; in the midst of conversation in a cinema or at home, or when driving in a car. This noise may mask the predefined data and prevent the display means from being activated. Ideally, this should not be greater than 1 non-activation out of 10 or 20 occasions.

As will be appreciated, while the consumer is wearing the badge, it will be subject to many different sources of noise, for example; conversation, music and car noise. These could, by chance, contain a sequence of sounds that are sufficiently like the predefined signal to trigger the device. The probability of this type of 'false alarm' occurring can be reduced by increasing the complexity of the predefined data, but this may be at the expense of battery life or badge cost. Ideally, less than 1 in 100 badges should be unintentionally activated during their lifetimes.

The required operating lifetime of the badge is expected to be application-dependent. Long operating lifetimes will require higher cost batteries or lower power circuits.

To minimise the production cost, an application specific integrated circuit (ASIC) can be developed. To reduce packaging costs the ASIC can be directly mounted on the printed circuit board and then protected from the atmosphere by a layer of plastic. For this type of ASIC to be viable, large production runs will be necessary. The requirement for such runs will make it more difficult to adapt the ASIC to a different application. Some degree of programmability may be possible, however this may require the use of a more expensive production process.

As will be appreciated by those skilled in the art, various modifications may be made to the embodiment hereinbefore described without departing from the scope of the present invention.

CLAIMS

- 1. Apparatus for displaying information, said apparatus including display means and activation means, said activation means being coupled to said display means such that upon reception of predefined data said activation means causes said display means to display predefined information.
- 2. Apparatus as claimed in Claim 1, wherein said predefined data is transmitted by an acoustic signal.
- 3. Apparatus as claimed in Claim 2, wherein said acoustic signal is digitally modulated.
- 4. Apparatus as claimed in Claims 1-3, wherein said predefined data is broadcast by a commercial broadcast means.
- 5. Apparatus as claimed in Claim 4, wherein said commercial broadcasting means is Television broadcasting means.
- 6. Apparatus as claimed in Claim 4, wherein said commercial broadcasting means is Radio broadcasting means.
- 7. Apparatus as claimed in any preceding Claim, wherein said apparatus further includes programming means for programming said predefined data and said predefined information.

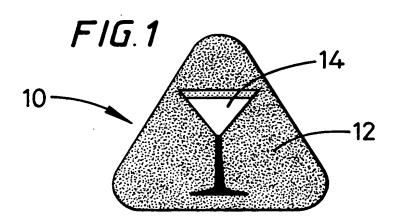
- 8. Apparatus as claimed in any preceding Claim, wherein said display means is a liquid crystal display.
- 9. Apparatus as claimed in any preceding Claim, wherein said activation means is an application specific integrated circuit.
- 10. Apparatus as claimed in any preceding Claim, wherein said apparatus further includes a microphone means, an analogue to digital interface means, a programmable digital processor and a battery.
- 11. Apparatus as claimed in any preceding Claim, wherein predefined information is an advertisement.
- 12. Apparatus as claimed in any of Claims 1-11, wherein said predefined information is a message.
- 13. Method for displaying information, said method including the steps of:

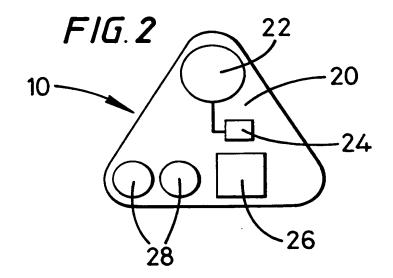
receiving data,

comparing said received data with predefined data, and upon said received data matching said predefined data, displaying predefined information.

- 14. Method as claimed in Claim 13, wherein said data is transmitted by an acoustic signal.
- 15. Method as claimed in Claim 14, wherein said acoustic signal is digitally modulated.

- 16. Method as claimed in Claims 14-15, wherein said acoustic signal is part of a commercial broadcast.
- 17. Method as claimed in Claim 15, wherein said commercial broadcast is an advertisement.
- 18. Method as claimed in Claims 16-17, wherein said commercial broadcast is a television broadcast.
- 19. Method as claimed in Claims 16-17, wherein said commercial broadcast is a radio broadcast.
- 20. Apparatus as hereinbefore described with reference to the accompanying drawings.





PATENT COOPERATION TREATY



From the INTERNATIONAL SEARCHING A	UTHORITY	PCT
To: Siemens Group Services Ltd. Intellectual Property Departm Attn. Allen, Derek	nent	NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION
Siemens House, Oldbury Bracknell	RECEI	/ED (PCT Rule 44.1)
GB-Berkshire RG12 8FZ UNITED KINGDOM	() 3 APR	5000
		Date of mailing (day/month/year) 30/03/2000
Applicant's or agent's file reference 98P4865	76.	FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/GB 99/04354		International filing date (day/month/year) 21/12/1999
Applicant		
ROKE MANOR RESEARCH LIMITED	et al.	·
Filing of amendments and statement	under Article 19:	n Report has been established and is transmitted herewith.

The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet. Where? Directly to the International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Fascimile No.: (41-22) 740.14.35 For more detailed instructions, see the notes on the accompanying sheet. The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith. With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that: the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices. no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made. 4. Further action(s): The applicant is reminded of the following: Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication. Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the

Name and mailing address of the International Searching Authority

European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,

priority date or could not be elected because they are not bound by Chapter II.

Fax: (+31-70) 340-3016

Authorized officer

Grietje Matthijs

NOTES TO FORM PCT/ISA/220





These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international polication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been its filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

NOTES TO FORM PCT/ISA/220 (continued)



The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

- [Where originally there were 48 claims and after amendment of some claims there are 51]:
 "Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers;
 claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
- [Where originally there were 15 claims and after amendment of all claims there are 11]:
 "Claims 1 to 15 replaced by amended claims 1 to 11."
- [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
 "Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
 "Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
- 4. [Where various kinds of amendments are made]: "Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international appplication is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international proliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide

PATENT COOPERATION TREATY

PCT



INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or age	nt's file reference	FOR FURTHER			ational Search Report applicable, item 5 below.
98P4865		ACTION			
International appli	cation No.	International filing date (da	y/month/year)	(Earliest) Priority D	ate (day/month/year)
PCT/GB 99/	04354	21/12/19	99	21/	12/1998
Applicant					· · · · · · · · · · · · · · · · · · ·
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ROKE MANOR	RESEARCH LIMIT	ED et al.			
		n prepared by this Internation		ority and is transmitte	d to the applicant
	al Search Report consists It is also accompanied by	of a total of3 a copy of each prior art doc	sheets. ument cited in this	report.	
1. Basis of the	e report				
		international search was car ess otherwise indicated und		sis of the international	application in the
	the international search w Authority (Rule 23.1(b)).	as carried out on the basis of	of a translation of t	ne international applic	ation furnished to this
	gard to any <mark>nucleotide an</mark> ried out on the basis of the	d/or amino acid sequence	disclosed in the in	ternational application	, the international search
Was car		onal application in written for	m.		
Ħ	filed together with the inte	rnational application in com	puter readable forr	n.	
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Ħ	•	this Authority in computer r			
	the statement that the sub	osequently furnished written is filed has been furnished.		oes not go beyond the	e disclosure in the
	• •		ter readable form is	s identical to the writte	n sequence listing has been
2.	Certain claims were fou	nd unsearchable (See Box	1).		
з. 🗀	Unity of invention is lac	king (see Box II).			
					•
4. With regard	to the title ,	ibmitted by the applicant			
씜	the text is approved as su	shed by this Authority to read	t ae followe:		-
	the text has been establis		as lollows.		·
5. With regard	I to the abstract,				
[X] ·	the text is approved as su	ubmitted by the applicant.		•	
	the text has been establis within one month from the	shed, according to Rule 38.2 e date of mailing of this inter	(b), by this Author national search re	ity as it appears in Bo port, submit comment	k III. The applicant may, s to this Authority.
6. The figure of	of the drawings to be pub	lished with the abstract is Fi	gure No.	1	
X	as suggested by the appl	icant.			None of the figures.
	because the applicant fai	led to suggest a figure.			
	because this figure better	r characterizes the invention	ı.		

A. CLASSIFIC IPC 7	G09F27/00	09F9/00
1.0,		03/3/

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

 $\begin{array}{ll} \mbox{Minimum documentation searched (classification system followed by classification symbols)} \\ \mbox{IPC 7} & \mbox{G09F} \end{array}$

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUM							
	oration of document, with indication, whole appropriately of the foreign						
Υ	FR 2 564 227 A (FLINOIS JEAN)	1-20					
•	15 November 1985 (1985-11-15)						
	the whole document						
Υ	WO 94 22127 A (ENDERS REINHARD)	1-20					
	29 September 1994 (1994-09-29)						
	the whole document						
P,X	GB 2 329 503 A (ROBINSON ALAN WILLIAM)	1,13					
•	24 March 1999 (1999-03-24)						
	page 8, line 2 - line 9; claims; figures						
Α	FR 2 458 857 A (VERDIER LOUIS)	1					
	2 January 1981 (1981-01-02)						
	claims; figures						
	·						
	,						

Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
 Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority clalm(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed 	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family
Date of the actual completion of the international search	Date of mailing of the international search report
22 March 2000	30/03/2000
Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Gallo, G

2

TILIMATIONAL SEATISTICE STILL

International Application No PCT/GB 99/04354

Category °	citation of document, dication, where appropriate, of the relevant passages	Relevant to claim No.
² ,A	DE 198 22 407 A (OSTENDORF NORBERT) 25 November 1999 (1999-11-25) claims; figures	1
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·		·

2

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No PCT/GB 99/04354

Patent document cited in search report		Publication date	Patent f	Publication date
FR 2564227	Α	15-11-1985	NONE	
WO 9422127	Α	29-09-1994	DE 4408951 A EP 0689705 A	22-09-1994 03-01-1996
GB 2329503	Α	24-03-1999	NONE	
FR 2458857	Α	02-01-1981	BE 883755 A LU 82516 A	01-10-1980 24-10-1980
DE 19822407	Α	25-11-1999	NONE	











Application No:

GB 9907626.7

Claims searched: 1-21 **Examiner:**

INVESTOR IN PEOPLE John Betts

Date of search:

20 August 1999

Patents Act 1977 **Search Report under Section 17**

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.Q): G4F (FAA, FAB, F14) G5C (CAB, CAD)

Int Cl (Ed.6): G09F 3/00 9/33 9/35 9/307 9/30; G08B 5/02 5/36 5/38

On-line: WPI, EPODOC, JAPIO Other:

Documents considered to be relevant:

Category	Identity of document and relevant passage				
х	GB2135536 A	(Wobbot Int) whole document	1-3, 6-9, 17,19-20		
x	US4514725	(Bristley) whole document	1-3,11,16 17, 19		
x	US4237449	(Zibbell) whole document	1-3, 17,19		

Member of the same patent family

- Document indicating technological background and/or state of the art.
- Document published on or after the declared priority date but before the filing date of this invention.
- Patent document published on or after, but with priority date earlier than, the filing date of this application.

Document indicating lack of novelty or inventive step

Document indicating lack of inventive step if combined with one or more other documents of same category.